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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Bruce Gilbert Cortez

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HAILU, KIBROM T

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/786,802	<b>Applicant(s)</b> CORTEZ ET AL.	
	<b>Examiner</b> KIBROM T. HAILU	<b>Art Unit</b> 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 15, 2008 has been entered.

### ***Response to Arguments***

2. Applicant's arguments received on December 15, 2008 have been fully considered but they are not persuasive because the previously provided references disclose the claimed invention.

The arguments on page 6-7 of the REMARKS are not persuasive, and thus the claims are not patentable.

The Applicants argue, "The 'something' that McLean does relative to bandwidth threshold crossing has to do with adding or removing bandwidth. It has nothing to do with when it is desirable to send available bandwidth messages". When to send available bandwidth messages is already disclosed by Dolganow (see, col. 7, lines 21-29; col. 6, lines 54-58). However, that is not what is claimed. That is, "when it is desirable to send available bandwidth message" is not what the Applicants claim. The claim limitation says that the fixed bandwidth thresholds are independent of the available bandwidth for a link at a given time. Meaning, the bandwidth thresholds are fixed and are independent of the amount of available bandwidth for a link at a given time. That was the main reason the Examiner provided MacLean. That is, McLean

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teaches the bandwidth thresholds are fixed (paragraph [0018], line 12-[0020]; [0028]-[0029]) and are independent of the amount of available bandwidth for a link at a given time (paragraph [0033]; [0018], lines 15-17).

Additionally, although Dolganow doesn't expressly disclose the thresholds are fixed, Dolganow discloses the thresholds are independent of the amount of bandwidth for a link (col. 7, lines 48-62). In other words, the bandwidth thresholds are not dependent of the amount of the bandwidth for the link and no advertising for bandwidth occurs unless the link bandwidth crosses thresholds. Therefore, Dolganow and McLean in combination perfectly disclose the claimed invention.

As per the motivation, in the previous office actions, the Examiner explicitly provided the reason why the two references are combinable to come up to the claimed limitation. Note that the reason or motivation doesn't have to be the same as the Applicants'. The McLean's reference teaches the bandwidth thresholds are fixed and are independent of the amount of bandwidth available for a link at a given time, and are incorporated into the communication of Dolganow in order to manage bandwidth on the links shared by multiple services and to control the policy of bandwidth allocation between services contending for links, and thus the bandwidth allocation is balanced between the services if the current utilization metric of at least one of the services exceeds the fixed or specified threshold and the usage of the bandwidth of the link is currently at full capacity. Similarly, the low utilization metric can be used to trigger the removal of bandwidth from the service should usage of the bandwidth by the service drop below the specified or fixed threshold even during the time interval, such as 10 minutes.

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Therefore, the Applicants' arguments are not persuasive, and the claims are not patentable in view of the previously provided references and the responses to the arguments.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dolganow et al. (US 7,016,975 B2) in view of MacLean et al. (US 2005/0073955 A1).

**Regarding claim 1**, Dolganow discloses a method for use in a communication network (col. 1, lines 17-18), the method comprising advertising an amount of available bandwidth for a link in response to said available bandwidth having crossed any one of a plurality of bandwidth thresholds (col. 2, lines 45-55; col. 1, line 36-51; col. 7, lines 33-61), the thresholds are independent of the amount of bandwidth for a link (col. 7, lines 48-62).

Dolganow doesn't disclose the thresholds are fixed and the fixed thresholds are independent of the amount of bandwidth available for the link at a given time.

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MacLean the thresholds are fixed and the fixed thresholds are independent of the amount of bandwidth available for the link at a given time (paragraph [0018], line 12-[0020]; [0028]-[0029]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate fixed parameters or bandwidth threshold values independent of the available bandwidth on the link as taught by MacLean into the advertising the available amount for a link of Dolganow in order to adaptively manage bandwidth on optical links shared by multiple services and to control the policy of bandwidth allocation between services contending for links, such as determining when bandwidth usage has dropped off sufficiently to warrant removing an STS-1 from the service, and thus the bandwidth allocation is balanced between the services if the current utilization metric of at least one of the services exceeds the fixed or specified threshold and the usage of the bandwidth of the link is currently at full capacity. Similarly, the low utilization metric can be used to trigger the removal of bandwidth from the service should usage of the bandwidth by the service drop below the specified or fixed threshold even during the time interval, such as 10 minutes.

**Regarding claims 2-5,** Dolganow discloses plurality of thresholds in a communication network (co. 7, lines 33-55).

Dolganow doesn't explicitly disclose the network allocates bandwidth to circuits established over said link in discrete bandwidth amounts, and wherein said plurality of bandwidth thresholds are each a function of said discrete bandwidth amounts; individual circuits set up over said link each utilize a respective number of time slots, and wherein each of said discrete bandwidth amounts corresponds to a respective number of said time slots and each of

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said individual circuits is an STS-N circuit having N time slots, where N is a value selected for each circuit from among a predefined set of values..

MacLean teaches the network allocates bandwidth to circuits established over said link in discrete bandwidth amounts, and wherein said plurality of predetermined bandwidth thresholds are each a function of and smaller than said discrete bandwidth amounts (paragraph [0021]-[0022]; [0028], lines 1-8; [0019]-[0020]); individual circuits set up over said link each utilize a respective number of time slots, and wherein each of said discrete bandwidth amounts corresponds to a respective number of said time slots and each of said individual circuits is an STS-N circuit having N time slots, where N is a value selected for each circuit from among a predefined set of values (paragraph [0022]; [0029], explains the bandwidth amounts correspond to the respective number of values of STS, such as 1, 24 and 48. And it is well known in the art that these values correspond to time slots, e.g. see Acharya et al. (US 2004/0165540), paragraph [0007]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the allocation of discrete amount of bandwidth wherein each of the thresholds are the function of and smaller than the discrete amount of bandwidth corresponding to the number of values such as 24 STS-1 or STS-24 and 48 STS-1 or STS-48 as taught by MacLean into the communication network of Doganow in order to adaptively manage bandwidth on optical links shared by multiple services.

**Regarding claims 6 and 7**, Dolganow discloses the network utilizes a predefined routing protocol (PNNI) (col. 3, lines 25-26), said protocol including routing messages (PTSEs) that are communicated among switches within said communication network, and wherein an individual

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one of said messages is an available bandwidth message that is transmitted, by at least one of said switches to which said link is connected, to at least another one of said switches (col. 7, lines 21-32; col. 1, lines 45-48; col. 2, lines 45-55).

6. Claims 8-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacLean in view of Dolganow.

**Regarding claims 8 and 17-18,** MacLean discloses telecommunication switch (Fig. 1; paragraph [0015], lines 12-15, “central controller 10-1”), telecommunication system or network (paragraph [0001]; [0002], lines 1-4) and a method for use in a communication network comprising a plurality of switches interconnected by a plurality of links (Fig. 1), the method comprising setting up circuits through said network, each circuit being set up over a path that includes two or more of said switches and one or more of said links (paragraph [0008], lines 1-8; [0016]) and each circuit having a particular amount of bandwidth selected from a plurality of predetermined circuit bandwidths (paragraph [0029]; [0021]; [0022]), and responsive to a request to set up through said network an additional circuit having a desired amount of bandwidth, identifying a path through said network that includes links each having at least that amount of available bandwidth (paragraph [0028]; [0016], lines 20-22; [0030], lines 4-8; [0031]), wherein it is determined how much bandwidth each link has available from available bandwidth (paragraph [0019]).

MacLean further discloses adding and removing the circuit bandwidths when a link’s bandwidth a) increased from a previous value to a value at least equal to the next higher one of said predetermined circuit bandwidths or b) has decreased from a previous value to a value that



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is lower than the next lower one of said predetermined circuit bandwidths (paragraph [0033]; [0023]; [0028]; [0019]; [0007]; [0008], lines 17-21; [0017]; [0020]).

MacLean doesn't explicitly disclose messages transmitted within said network, each indicating an amount of available bandwidth for a respective link, each of at least ones of said available bandwidth messages being transmitted responsive to the determination.

Dolganow teaches messages transmitted within said network, each indicating an amount of available bandwidth for a respective link, each of at least ones of said available bandwidth messages being transmitted responsive to the determination (col. 1, lines 44-51; col. 2, lines 45-55; col. 7, lines 27-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate transmitting or advertising a message such as PTSE when a change of a link's bandwidth crosses the significant upper and lower bound values into the bandwidth management of MacLean in order to avoid requiring significant resource available for set up calls, hence decreasing overall network efficiency (Dolganow, col. 1, lines 41-44).

**Regarding claim 13**, the claim includes features corresponding to subject matter mentioned above to the rejection of claim 8. The claim is a mere reformulation of claim 8, and thus the rejection to claim 8 is applicable hereto.

**Regarding claims 9 and 10**, MacLean discloses circuits each utilize a respective number of time slots, and wherein each of said predetermined circuit bandwidths corresponds to a respective number of said time slots and each of said circuits is an STS-N circuit having N time slots, where N is a value selected for each circuit from among a predefined set of values (paragraph [0022]; [0029], explains the bandwidth amounts correspond to the respective number

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of values of STS, such as 1, 24 and 48. And it is well known in the art that these values correspond to time slots, e.g. see Acharya et al. (US 2004/0165540), paragraph [0007]).

**Regarding claims 11 and 12**, as applied above, MacLean discloses available bandwidth with in links that are connected the nodes or the switches of the network.

MacLean doesn't explicitly disclose the network utilizes a predefined routing protocol (PNNI), said protocol including routing messages (PTSEs) that are communicated among switches within said communication network, said routing messages including said available bandwidth messages, and wherein said available bandwidth messages are transmitted by at least ones of said switches to others of said switches.

Dolganow teaches the network utilizes a predefined routing protocol (PNNI) (col. 3, lines 25-26), said protocol including routing messages (PTSEs) that are communicated among switches within said communication network, said routing messages including said available bandwidth messages, and wherein said available bandwidth messages are transmitted by at least ones of said switches to others of said switches (col. 7, lines 21-32; col. 1, lines 45-48; col. 2, lines 45-55).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the communication network technique of Dolganow utilizing PNNI and transmitting PTSE or messages among the switches indicating the change and/or availability of bandwidth in a link into the bandwidth management of MacLean in order to avoid requiring significant resource available for set up calls, hence decreasing overall network efficiency (Dolganow, col. 1, lines 41-44).

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**Regarding claims 14-16**, as applied above, MacLean discloses available bandwidth with in links that are connected the nodes or the switches of the network

MacLean doesn't explicitly disclose available bandwidth messages associated with a particular link are transmitted by at least one switch to which that link is connected; said at least one switch transmits said available bandwidth messages associated with a particular link to other switches of said network; and said at least one switch transmits said available bandwidth messages associated with a particular link to other switches of said network, but only if it has not done so within a predetermined period of time since it last transmitted an available bandwidth message associated with said particular link.

Dolganow teaches available bandwidth messages associated with a particular link are transmitted by at least one switch to which that link is connected (col. 2, lines 49-55); said at least one switch transmits said available bandwidth messages associated with a particular link to other switches of said network (col. 1, line 62-col. 2, line 13; col. 6, lines 16-22); and said at least one switch transmits said available bandwidth messages associated with a particular link to other switches of said network, but only if it has not done so within a predetermined period of time since it last transmitted an available bandwidth message associated with said particular link (col. 7, lines 21-32).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to transmit messages within a predetermined period of time associated to link's bandwidth availability to adjacent switch and/or other switches in the network as taught by Dolganow, and use the technique into the MacLean telecommunication method in order to avoid

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requiring significant resource available for set up calls, hence decreasing overall network efficiency (Dolganow, col. 1, lines 41-44).

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to KIBROM T. HAILU whose telephone number is (571)270-1209. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kibrom T Hailu/

Examiner, Art Unit 2416

/Huy D. Vu/

Supervisory Patent Examiner, Art Unit 2416